

A New Species of *Stenosemus* Middendorff, 1847

(Mollusca : Polyplacophora)

in the Abyssal Northeastern Pacific

BY

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(1 Plate; 5 Text figures)

THE EXAMINATION OF 20 lots of eastern Pacific chitons in the Benthic Invertebrate Collection of the Scripps Institution of Oceanography, La Jolla, California (SIO), made available through the generosity of Dr. William A. Newman and Spencer R. Luke brought to light 3 specimens of a new species of abyssal chiton which further study revealed to belong to *Stenosemus* Middendorff, 1847, here elevated to generic rank.

POLYPLACOPHORA de Blainville, 1816

Neoloricata Bergenhayn, 1955

ISCHNOCHITONIDAE Dall, 1889

Stenosemus Middendorff, 1847

Stenosemus chiversi Ferreira, spec. nov.

(Figures 1 to 4 and 5 to 9)

Diagnosis: Small, elongated chitons, strongly carinate. Tegmentum white, irregularly rugose to coarsely granulate. Valves with well defined, laterally pinched beaks. Mucro anterior. Girdle with imbricated cylindrical scales. Slit formula (holotype), 28/3-4/25. Sutural laminae continuous across shallow sinus. Gills posterior, abanal. Radula with unicuspid major lateral teeth.

Description:

Holotype - The specimen, preserved in ethyl alcohol,

measures, including the girdle, 18.3 mm in length, 9.3 mm in width (at the level of valve iv), and 4.3 mm in height. Strongly carinate jugal angle about 90°. Tegmentum uniformly white, except for some black, fuliginous material adhering to the shell and girdle. Lateral areas of intermediate valves well defined but only slightly raised. The whole tegmentum sculptured with irregular rugosities (Figures 1 to 4), weaker at the jugum, bolder at the periphery; in the end valves and lateral areas these rugosities acquire a vaguely concentric, zig-zag disposition; towards the jugum, the rugosities break up into coarse granules increasingly less defined. Valves slightly beaked, particularly in the posterior valves, iv to vii, where the beaks have a quite unique laterally pinched appearance (Figure 3). Mucro anterior, well defined, almost pointed, with the same pinched look; postmucro area straight, at a 45° slope. Articulamentum chalky white. Insertion plates short; teeth small, irregularly shaped; slit formula 28/3-4/25. Eaves moderately spongy. Sutural laminae delicate, relatively short, continuous along a very shallow, almost obsolete sinus through a pectinated sinusal plate. Girdle about 1.0 mm wide, covered with white cylindrical scales (Figure 5) strongly imbricated in a manner that only their blunt round tips show; the scales, about 300 μm in height, 70 μm in width, have a dull surface without ornamentation. Undersurface of girdle covered with rectangular, translucent scales, about 100 μm long, 16 μm wide (Figure 6). Gills abanal, in the posterior half of the foot, about 15 plumes per side. Radula 4.5 mm long (25% of the length of the specimen) comprises about 90 rows of mature teeth. Median tooth (Figure 7), oval shaped, about 35 μm wide, 80 μm long; first lateral teeth elongated; second (major) lateral teeth with slender, unicuspid head (Figure 8), about 90 μm long, 25 μm wide at the base;

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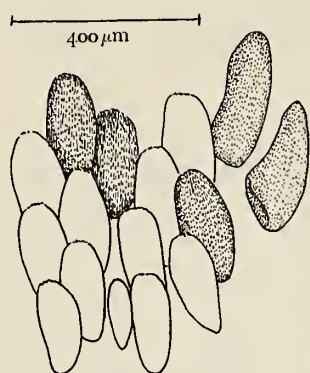


Figure 5

Stenosemus chiversi Ferreira, spec. nov.

Holotype (CASIZ No. 017683); cylindroid scales of girdle's upper surface. Camera lucida drawing by Barbara Weitbrecht

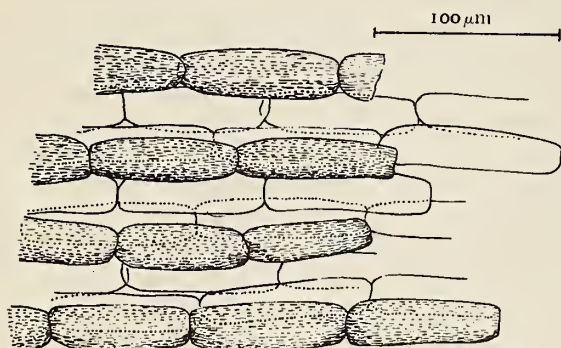


Figure 6

Stenosemus chiversi Ferreira, spec. nov.

Holotype (CASIZ No. 017683); scales of the girdle's undersurface. Camera lucida drawing by Barbara Weitbrecht.

Seitenplatte simple in shape but very long, 250-280 μm at the main shaft (Figure 9); outer marginal teeth 55 μm long, 60 μm wide.

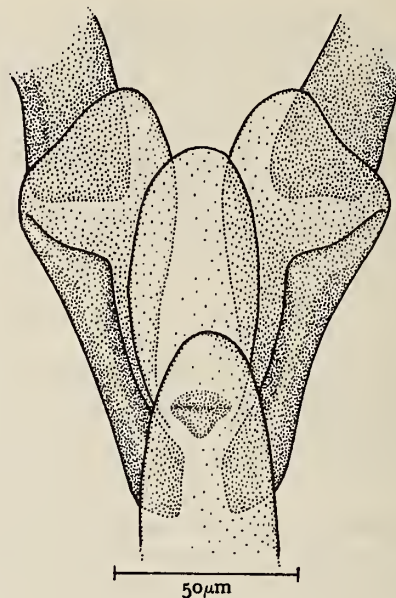


Figure 7

Stenosemus chiversi Ferreira, spec. nov.

Holotype (CASIZ No. 017683); median and first lateral teeth of radula. Camera lucida drawing by Barbara Weitbrecht.

Type Locality: North eastern Pacific, 14° 52' N, 125° 26' W, 4390m, as collected by R. Dick, R/V *Prospector*, with a benthos free fall grab, 13 September 1975.

Type Material:

Holotype, disarticulated, with girdle and radula mounted in slides, deposited at the California Academy of Sciences, Department of Invertebrate Zoology (CASIZ, Cat. # 017683). A paratype, with the same dimensions of the holotype, part of the same lot (SIO M1188) deposited at the Benthic Invertebrate Collection of the Scripps Institution of Oceanography. Another paratype (SIO M 1419), collected "N of Equator & E of Hawaii, at

Explanation of Figures 1 to 4

Figure 1: *Stenosemus chiversi* Ferreira, spec. nov. Paratype, ca. 18 mm long (SIO 1188); side view

Figure 2: Same as in Figure 1; close-up of central and lateral areas

Figure 3: Same as in Figure 1; close-up of seventh valve to show beak (arrow)

Figure 4: *Stenosemus chiversi* Ferreira, spec. nov. Holotype (CASIZ No. 017683); dorsal view of the posterior valve



Figure 1



Figure 2



Figure 3

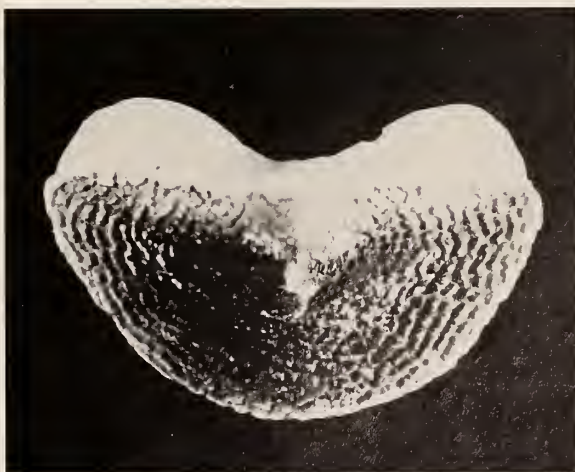


Figure 4

